

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Hanley-Bowdoin et al.
Application Serial No. 09/289,346
Filed: April 9, 1999

October 3, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Declaration of Linda Hanley-Bowdoin, Ph.D.
under 37 C.F.R. § 1.132

I, Linda Hanley-Bowdoin, Ph.D., do hereby declare and say as follows:

1. I am a named inventor on U.S. Patent Application Serial No. 09/289,346 (hereinafter "the '346 application").
2. The '646 application describes the identification and characterization of several mutants of the geminivirus AL1/CI protein for the ability to increase resistance in plants to infection by a geminivirus.
3. The nucleotide sequences of the mutants described in this invention are set forth in Table 4. The nucleotide sequences encode the amino acid sequences of the respective mutants described in the specification.
4. For mutants Ala2 and Leu, the nucleotide sequences that respectively encode the amino acid sequence of Ala2, as set forth in the Sequence Listing as SEQ ID NO:12 and Leu, as set forth in the Sequence Listing as SEQ ID NO:13, were identified prior to the filing of this application to be
CAGCGTCGTTgctaGcTgcGCAACCTCCTCTAGCA (Ala2) and
GAAGCATTTAAGGCCTCTagTagAagGTCGTTAGATG (Leu). These sequences are shown in the data sheets attached as Exhibits A and B, which were derived from the original sequencing data obtained prior to the filing date of this application. In particular, the relevant nucleotide sequences are

highlighted and the complementary nucleotide sequence is written in pencil above the printed sequence. This written sequence is the correct version of the coding sequence shown in Table 4 of the specification.

5. The respective nucleotide sequences for mutants Ala2 and Leu as shown in Table 4 in the specification as originally filed have the following errors. The amendments to these sequences are shown herein in standard amendment format (i.e., underline to add and double bracket to delete):

CAGCGTCGTTgctaGcTgcGCAACCTCCTCTAGCA (Ala2)

GAAGCA[A]TTTAAGGCCTCTagTagAagGTGGTTAGATG (Leu)

6. As the correct nucleotide sequences for mutants Ala2 and Leu were known prior to the filing of this application, the errors in these sequences as set forth in Table 4 are inadvertent typographical errors. These errors were readily detected when an attempt was made to translate the sequences as originally set forth in Table 4 into amino acid sequences. The particular errors were readily identified and once the sequences were corrected as described above, the nucleotide sequences of mutants Ala2 and Leu were translated properly into the correct amino acid sequences identified for these mutants and as disclosed in the specification as filed.

7. I do hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Linda Hanley-Bowdoin
Linda Hanley-Bowdoin, Ph.D.

10-3-03
Date

Attachments: Exhibits A and B

1546 ATGCCATCGCATCCAAAACGGTTTCAAATAAATGCCAAAAATTATTTTCTTACATATCCTCAAGTCTCCTTGCCAAAGA
 1►MetProSerHisProLysArgPheGlnIleAsnAlaLysAsnTyrPheLeuThrTyrProGlnCysSerLeuSerLysGln

1626 AGAATCACTTTCTCAATTACAAGCCCTAAACACTCCGATTAACAAAAAATTCATAAAAAATCTGCAGAGAGCTTCATGAAG
 27►uGluSerLeuSerGlnLeuGlnAlaLeuAsnThrProIleAsnLysLysPheIleLysIleCysArgGluLeuHisGlu

1706 ATGGGCAACCTCACCTCCACGTGCTTATTTCAGTTCGAGGGGAAAATACTGCTGCCAAAATCAACGATTCTTCGACCTGGTAT
 54►spGlyGlnProHisLeuHisValLeuIleGlnPheGluGlyLysTyrCysCysGlnAsnGlnArgPhePheAspLeuValS

1787 CCCCACAAGGTCAGCACATTTCCATCCAAACATTTCAGAGAGCTAAATCGTCTTCCGACGTCAAGACGTACATCGACAAAG
 81►erProThrArgSerAlaHisPheHisProAsnIleGlnArgAlaLysSerSerSerAspValLysThrTyrIleAspLysA

1868 ACGGAGATACTCTTGATGGGGAGAATTCAGGTCGACGGTCGAAGTGCTAGAGGAGGTTGCGCAGCTAGCAACGACGCTG
 108►spGlyAspThrLeuValTrpGlyGluPheGlnValAspGlyArgSerAlaArgGlyGlyCysAlaAlaSerAsnAspAlaA

1949 CAGCAGAGGCGTTAAATGCTTCTTCCAAAGAAGAAGCCCTGCAGATAATTAGAGAGAAAATCCCAGAAAAATATTTATTTT
 135►IaAlaGluAlaLeuAsnAlaSerSerLysGluGluAlaLeuGlnIleIleArgGluLysIleProGluLysTyrLeuPheG

2030 AGTTCACAATCTAAATAGCAATTTAGATAGGATATTTGATAAGACTCCTGAACCATGGCTTCTCCTCCGTTCCACGTCTCAT
 162►InPheHisAsnLeuAsnSerAsnLeuAspArgIlePheAspLysThrProGluProTrpLeuProProPheHisValSerS

2111 CATTTACTAACGTGCCAGACGAGATGAGACAATGGGCTGAAAATTATTTTGAAAGAGTTCCGCTGCGCGCGCCGAGAGAC
 189►erPheThrAsnValProAspGluMetArgGlnTrpAlaGluAsnTyrPheGlyLysSerSerAlaAlaArgProGluArgP

2192 CTATTAGTATTATCATCGAGGCGGATAGTCGGACGGGAAAGACTATGTGGGCTCGTTCACTAGGCCACATAATTATTTG
 216►rolleSerIleIleIleGluGlyAspSerArgThrGlyLysThrMetTrpAlaArgSerLeuGlyProHisAsnTyrLeu

2272 AGCGGGCATTTGGATCTCAATTCTAGGGTTTACTCAAACAAGGTTGAGTATAACGTCATCGATGATGTACACCGCAATAT
 243►SerGlyHisLeuAspLeuAsnSerArgValTyrSerAsnLysValGluTyrAsnValIleAspAspValThrProGlnTyr

2353 CTAAAGTTGAAACATTGGAAAGAACTCATTGGGGCCCAAAGAGATTGGCAGACTAACTGTAAATACGGAAAGCCAGTTCAA
 270►LeuLysLeuLysHisTrpLysGluLeuIleGlyAlaGlnArgAspTrpGlnThrAsnCysLysTyrGlyLysProValGln

2434 ATTAAAGGAGGTATCCCGTCAATCGTGCTGTGCAATCCTGGAGAGGGTGCTAGCTATAAAGTTTTCTCGACAAAGAGGAA
 297►IleLysGlyGlyIleProSerIleValLeuCysAsnProGlyGluGlyAlaSerTyrLysValPheLeuAspLysGluGlu

2515 AACACTCCACTAAAGAACTGGACTTTCCATAATGCGAAATTCGTCTTCTCAACTCCCCCTCTATCAAAGCTCAACACA
 324►AsnThrProLeuLysAsnTrpThrPheHisAsnAlaLysPheValPheLeuAsnSerProLeuTyrGlnSerSerThrGln

2595 GAGCAGC
 350►nSerSer

Leu2

1095 ATGCCATCGCATCCAAAACGGTTTCAAATAAATGCCAAAAATTATTTCTTACATATCCTCAGTGCTCCTTGT
1►MetProSerHisProLysArgPheGlnIleAsnAlaLysAsnTyrPheLeuThrTyrProGlnCysSerLeuS

1168 CCAAAGAAGAATCACTTTCTCAATTACAAGCCCTAAACACTCCGATTAACAAAAAATTCATAAAAAATCTGCAG
25►erLysGluGluSerLeuSerGlnLeuGlnAlaLeuAsnThrProIleAsnLysLysPheIleLysIleCysAr

1241 AGAGCTTCATGAAGATGGGCAACCTCACCTCCACGTGCTTATTCAGTTCGAGGGAAAATACTGCTGCCAAAAT
49►gGluLeuHisGluAspGlyGlnProHisLeuHisValLeuIleGlnPheGluGlyLysTyrCysCysGlnAsn

1314 CAACGATTCTTCGACCTGGTATCCCCAACAAAGGTCAGCACATTTCCATCCAAACATTCAGAGAGCTAAATCGT
74►GlnArgPhePheAspLeuValSerProThrArgSerAlaHisPheHisProAsnIleGlnArgAlaLysSerS

EcoRI

1387 CTTCCGACGTCAAGACGTACATCGACAAAGACGGAGATACTCTTGTATGGGAGAATTCCAGGTCGACGGTCG
98►erSerAspValLysThrTyrIleAspLysAspGlyAspThrLeuValTrpGlyGluPheGlnValAspGlyAr

1460 AAGTGCTAGAGGAGGTTGCCAAACATCTAACGACCTTCTACTAGAGGCCTTAAATGCTTCTTCCAAAGAAGAA
122►gSerAlaArgGlyGlyCysGlnThrSerAsnAspLeuLeuLeuGluAlaLeuAsnAlaSerSerLysGluGlu
GTAGATTGCTGAGATGATCTTGGAAATTACGAAG

1533 GCCCTGCAGATAATTAGAGAGAAAAATCCCAGAAAAATATTTATTTTCAGTTCACAAATCTAAATAGCAATTTAG
147►AlaLeuGlnIleIleArgGluLysIleProGluLysTyrLeuPheGlnPheHisAsnLeuAsnSerAsnLeuA

1606 ATAGGATATTTGATAAGACTCCTGAACCATGGCTTCTCCGTTCCACGTCTCATCTTTACTAACGTGCCAGA
171►spArgIlePheAspLysThrProGluProTrpLeuProProPheHisValSerSerPheThrAsnValProAs

EagI

1679 CGAGATGAGACAATGGGCTGAAAATTATTTTGGAAAGAGTTCCGCTGCGCGCCGGAGAGACCTATTAGTATT
195►pGluMetArgGlnTrpAlaGluAsnTyrPheGlyLysSerSerAlaAlaArgProGluArgProIleSerIle

1752 ATCATCGAGGGCGATAGTCGGACGGGAAAGACTATGTGGGCTCGTTCACTAGGCCACATAATTATTTGAGCG
220►IleIleGluGlyAspSerArgThrGlyLysThrMetTrpAlaArgSerLeuGlyProHisAsnTyrLeuSerG

1825 GGCATTTGATCTCAATTCTAGGGTTTACTCAAACAAGGTTGAGTATAACGTCATCGATGATGTACACCGCA
244►IyHisLeuAspLeuAsnSerArgValTyrSerAsnLysValGluTyrAsnValIleAspAspValThrProG

1898 ATATCTAAAGTTGAAACATTGGAAAGAACTCATTGGGGCCCAAAGAGATTGGCAGACTAACTGTAAATACGGA
268►nTyrLeuLysLeuLysHisTrpLysGluLeuIleGlyAlaGlnArgAspTrpGlnThrAsnCysLysTyrGly

1971 AAGCCAGTTCAAATTAAGGAGGTATCCCGTCAATCGTGCTGTGCAATCCTGGAGAGGGTGCTAGCTATAAAG
293►LysProValGlnIleLysGlyGlyIleProSerIleValLeuCysAsnProGlyGluGlyAlaSerTyrLysV

2044 TTTTCCTCGACAAAGAGGAAAACACTCCACTAAAGAACTGGACTTTCCATAATGCGAAATTCGTCTTCCTCAA
317►alPheLeuAspLysGluGluAsnThrProLeuLysAsnTrpThrPheHisAsnAlaLysPheValPheLeuAs

2117 CTCCCCCTCTATCAAAGCTCAACACAGAGCAGC
341►nSerProLeuTyrGlnSerSerThrGlnSerSer